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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
08/870,762	06/06/97	DUFT	B

022249
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HM12/0624

EXAMINER	
DEVI, S	

ART UNIT	PAPER NUMBER
1641	15

DATE MAILED: 06/24/99

Notice of Appeal due: 9/24/99

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

Office Action Summary	Application No. 08/870,762	Applicant(s) Duft et al.
	Examiner S. Devi, Ph.D.	Group Art Unit 1641

☒ Responsive to communication(s) filed on *Mar 22, 1999*.

☒ This action is **FINAL.**

☐ Since this application is in condition for allowance except for formal matters, **prosecution as to the merits is closed** in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

A shortened statutory period for response to this action is set to expire *three* month(s), or thirty days, whichever is longer, from the mailing date of this communication. Failure to respond within the period for response will cause the application to become abandoned. (35 U.S.C. § 133). Extensions of time may be obtained under the provisions of 37 CFR 1.136(a).

Disposition of Claims

☒ Claim(s) *1-6* is/are pending in the application.

Of the above, claim(s) _____ is/are withdrawn from consideration.

☐ Claim(s) _____ is/are allowed.

☒ Claim(s) *1-6* is/are rejected.

☐ Claim(s) _____ is/are objected to.

☐ Claims _____ are subject to restriction or election requirement.

Application Papers

☐ See the attached Notice of Draftsperson's Patent Drawing Review, PTO-948.

☐ The drawing(s) filed on _____ is/are objected to by the Examiner.

☐ The proposed drawing correction, filed on _____ is ☐approved ☐disapproved.

☒ The specification is objected to by the Examiner.

☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119

☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).

☐ All ☐ Some* ☐ None of the CERTIFIED copies of the priority documents have been

☐ received.

☐ received in Application No. (Series Code/Serial Number) _____.

☐ received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

*Certified copies not received: _____.

☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

Attachment(s)

☒ Notice of References Cited, PTO-892

☒ Information Disclosure Statement(s), PTO-1449, Paper No(s). *9*

☐ Interview Summary, PTO-413

☐ Notice of Draftsperson's Patent Drawing Review, PTO-948

☐ Notice of Informal Patent Application, PTO-152

— SEE OFFICE ACTION ON THE FOLLOWING PAGES —

DETAILED ACTION

1) Acknowledgment is made of Applicants' amendment filed 03/22/99 (paper no. 11) in response to the Office Action mailed 09/16/98 (paper no. 8).

Claims Status

2) Claim 1 has been amended via paper no. 11.

Claims 1-6 are pending in the instant application and are under examination.

Prior Citation of Title 35 Sections

3) The text of those sections of Title 35 U.S. Code not included in this action can be found in a prior Office Action.

Prior Citation of References

4) The references cited or used as prior art in support of one or more rejections in the instant Office Action and not included on an attached form PTO-892 or form PTO-1449 have been previously cited and made of record.

Information Disclosure Statement

5) Acknowledgment is made of Applicant's supplemental Information Disclosure Statement filed 12/28/1998 (paper no. 9). The information referred to therein has been considered and a signed copy is attached to this Office Action (paper no. 13).

Objection Maintained

6) The objection to the specification made in paragraph 4 of the Office Action mailed 09/16/98 (paper no. 8) is maintained for reasons set forth therein. Applicants have not addressed the issue.

Rejection Withdrawn

7) The rejection of claims 1-6 made in paragraph 5 of the Office Action mailed 09/16/98 (paper no. 8) as being non-enabled, with regard to the scope, for a method of "preventing" obesity in a human subject is withdrawn in light of Applicants' amendment to the base claim.

Rejections Maintained

8) The rejection of claims 1-3 made in paragraph 7 of the Office Action mailed 09/16/98 (paper no. 8) as being anticipated by Rink *et al.* (US 5,739,106) ('106) is maintained for reasons

set forth therein.

Applicants contend that Rink *et al.* ('106) do not describe the claimed methods of treating obesity and the use of an amylin agonist alone for controlling appetite in human subjects. Applicants assert that none of claims 83-85 of Rink *et al.* refer to the administration of an amylin agonist (see page 4 of Applicants' response).

Applicants argument has been considered, but is not found to be persuasive. The claims, as currently drafted, use the open claim language "comprising" and do not exclude the administration of any other substance other than amylin or amylin agonist. Claims 83-85 do encompass methods for control of body weight or control of appetite or suppression of food intake in a mammal comprising administering an effective amount of an amylin agonist, in particular ^{25,28,29}pro-h-amylin. Amylin agonist is administered in an amount of about 0.1 μg/kg/day (column 95, lines 1-8) and 1-3 times a day (see column 21, lines 26 and 27). The amylin agonist can be s-calcitonin or h-amylin (see column 8, lines 35-38). Further, Rink *et al.* ('106) illustrate that administration of amylin **alone** did suppress food intake (see Figure 1). Rink *et al.* also discuss the art-recognized fact that amylin reduces food intake significantly in mammals (see the paragraph bridging columns 6 and 7).

9) The rejection of claims 4-6 made in paragraph 9 of the Office Action mailed 09/16/98 (paper no. 8) as being unpatentable over Rink *et al.* ('106) in view of Gaeta *et al.* (US 5,686,411) ('411) is maintained for reasons set forth therein.

Applicants contend that Gaeta *et al.* teach various amylin agonists including ^{25,28,29}pro-h-amylin useful in the treatment of diabetes, but not of obesity.

Applicants argument has been considered, but is not found to be persuasive. As clearly set forth in paragraph 9 of the previous Office Action (paper no. 8), Gaeta *et al.* is cited in a 35 U.S.C. § 103 rejection to document that the specific doses of amylin agonist at the frequencies and by routes of administration as recited in claims 4-6 have been safely administered to patients and therefore, would be obvious to those skilled in the art. Gaeta *et al.* teach that "[a]s will be recognized by those in the field, an effective amount of therapeutic agent will vary with many factors including the age and weight of the patient, the patient's physical condition .... and other

factors". Typical doses contain 0.1 to 1.0 mg of an amylin agonist compound and this range covers the one recited in claim 6. The composition may conveniently be provided in the form suitable for subcutaneous administration (column 7, lines 37-40). It is further taught that a "suitable administration format may best be determined by a medical practitioner for each patient individually" (column 7, lines 45-47), and that suitable "doses are readily determined by those in the art" (column 8, lines 62 and 63). Further, the specific time period of administration is generally dose dependent and the time is determined based on standard treatment regimens. Generally, the dosage and periods of administration would vary with the age, sex, clinical condition, extent of the disease in the patient and can be further determined by one skilled in the art. The dosage and time period can also be determined or adjusted by a physician on an individual basis. The different times and route of administration can be determined by routine experimentation and thus would have been obvious to one skilled in the art.

10) The rejection of claims 1-6 made in paragraph 10 of the Office Action mailed 09/16/98 (paper no. 8) under 35 U.S.C. § 103(a) as being unpatentable over Kolterman *et al.* (*Diabetologia* 39: 492-499, April, 1996) (I) or Kolterman *et al.* (WO 96/40220) (II) or Moyses *et al.* (*Diabetic Med.* 13 (suppl. 1): 34-38, September, 1996) or Thompson *et al.* (*Diabetes* 46: 632-636, April 1997) in view of Cooper *et al.* (*Biochim. Biophys. Acta* 1014(3): 247-258, 1989, abstract) and Rink *et al.* ('106) is maintained for reasons set forth therein and those that are set forth below.

Applicants argue that the cited references relate to methods of treating patients with diabetes mellitus and not of obesity. Applicants contend that Dr. Cooper is the co-founder of Amylin Pharmaceutics and the discoverer of amylin. Applicants further discuss patents, US 5,364,841, US 5,280,014 and US 5,656,590, on treatment of obesity and anorexia and state that these patents teach away from the subject matter claimed in the instant application.

Applicants argument has been considered, but is not found to be persuasive. First, none of the three patents mentioned by Applicants as teaching away from the instant invention were cited in the rejection claims 1-6 made in paragraph 10 of the Office Action mailed 09/16/98 (paper no. 8) under 35 U.S.C. § 103(a). Who discovered amylin is also not the issue. At issue is whether the claimed method is obvious over the prior-art methods, given the teachings of Kolterman *et al.*

(I) or Kolterman *et al.* (II) or Moyses *et al.* or Thompson *et al.* in view of Cooper *et al.* and Rink *et al.* ('106).

As explained in paragraph 10 of the Office Action mailed 09/16/98 (paper no. 8) , the invention as a whole, would have been obvious to a practitioner in view of the combined teachings of Kolterman *et al.* (I) or Kolterman *et al.* (II) or Moyses *et al.* or Thompson *et al.* in view of Cooper *et al.* and Rink *et al.* ('106), the contemporary knowledge in the art at the time of invention and the state of the art at the time of the invention. Given the close clinical association between type 2 diabetes and obesity as taught by Thompson *et al.*, Rink's explicit teaching that amylin agonists such as $^{25, 28, 29}$pro-h-amylin is effective in controlling body weight, reducing food intake and suppressing appetite in humans, and the art-recognized clinical need for weight reduction in patients suffering from type II diabetes mellitus, it would have been obvious to one of ordinary skill in the art at the time the invention was made to use Kolterman's method (I and II) or Moyses' or Thompson's method of treatment for treating obesity in human subjects to produce the instant invention. Since weight reduction is often the recommended first course of action for patients suffering from type II diabetes mellitus as taught by Rink *et al.*, one of ordinary skill in the art would be motivated to produce the instant invention for the expected benefit of preventing NIDDM from advancing to or resulting in obesity. A skilled artisan would have had a reasonable expectation of success in using Kolterman's (I and II) or Moyses' or Thompson's method of treating type II diabetes also for treatment of obesity because these two associated clinical conditions share the common pathogenetic mechanisms as taught by Rink *et al.*

It should be noted that what would reasonably have been known and used by one of ordinary skill in the art need not be explicitly taught. See *In re Nilssen*, 851 F.2d 1401, 7 USPQ2d 1500 (Fed. Cir. 1988). The test of obviousness is not express suggestion of the claimed invention in any and all of the references, but rather what the references taken collectively would reasonably have suggested to those of ordinary skill in the art presumed to be familiar with them. *In re Keller*, 642 F.2d 413, 425, 208 USPQ 871, 881 (CCPA 1981). Obviousness does not require absolute predictability, (see *In re Lamberti*, 192 USPQ 278), but only a reasonable expectation of success (see *In re O'Farrell*, 7 USPQ 2d 1673, Fed. Cir. 1988).

New Rejections

11) Applicants are asked to note the new rejections made in this Office Action. Applicants' amendment necessitated the new grounds of rejection presented in this Office Action.

Claims Rejections - 35 U.S.C. §102

12) Claims 1 and 2 are rejected under 35 U.S.C § 102(e) as being anticipated by Cooper *et al.* (US 5,280,014) ('014) or Cooper *et al.* (US 5,364,841) ('841).

Cooper *et al.* ('014) teach a method of treating obesity in a subject comprising administering an effective amount of CGRP 8-37, which is an amylin agonist (see claims 1 and 11, and column 11, lines 3 and 4).

Cooper *et al.* ('841) teach a method of treating obesity in a subject comprising administering an effective amount of CGRP 8-37, which is an amylin agonist (see claims 2 in combination with lines 7 and 8 of column 11).

Claims 1 and 2 are anticipated by Cooper *et al.* ('014) or Cooper *et al.* ('841).

Remarks

13) Claims 1-6 stand rejected.

14) The prior art made of record and not currently relied upon in any of the rejections is considered pertinent to Applicants' disclosure:

- Meglasson (US 5,900,435) discloses the art recognized need for therapy to treat or prevent obesity (see column 4, lines 32-33). Meglasson teaches that "obesity is considered to be of importance in the development of NIDDM" and that "wight reduction is considered to be the primary medical therapy for NIDDM patients" (see column 9, first paragraph).

15) **THIS ACTION IS MADE FINAL.** Applicants are reminded of the extension of time policy as set forth in 37 C.F.R 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 C.F.R 1.136(a) will be calculated from the mailing date of the advisory action. In no event,

however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

16) Any inquiry concerning this communication or earlier communications from the Examiner should be directed to S. Devi whose telephone number is (703) 308-9347. The Examiner can normally be reached on Monday to Friday from 8.00 a.m to 4.00 p.m. A message may be left on Examiner's voice mail system.

If attempts to reach the Examiner by telephone are unsuccessful, the Examiner's supervisor, James Housel, can be reached on (703) 308-4027. The fax phone number for this Group is (703) 308-4242.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (703) 308-0196.

June 1999

James C. Housel
JAMES C. HOUSEL 6/21/99
SUPERVISORY PATENT EXAMINER